AUTHOR: Khrustalev, A.F. and Kogan B.I. SOV/140-58-3-31/34

TITLE: On a Boundary Value Problem for the Biharmonic Equation Occurring in Elasticity Theory (Ob odnoy granichnoy zadache dlya bigarmonicheskogo uravneniya, vstrechayushcheysya v teorii uprugosti)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1958, Nr 3, pp 241-247 (USSR)

ABSTRACT: The authors consider the solution of such axialsymmetric elasticity problems for the infinite circular cylinder which lead to the determination of the stress function $\chi(r,z)$ which in the cylindrical coordinate system satisfies the biharmonic equation $\nabla^4\chi(r,z)=0$ and the boundary conditions

$$\sigma_r = \frac{\partial}{\partial z}\left(\nu\nabla^2\chi - \frac{\partial^2\chi}{\partial r^2}\right) = 0 \quad \text{for } r=R\ ,\ 0<z<\infty$$

$$\tau_{rz} = \frac{\partial}{\partial r}\left[(1-\nu)\nabla^2\chi - \frac{\partial^2\chi}{\partial z^2}\right] = 0 \quad \text{for } r=R\ ,\ -\infty<z<\infty$$

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On a Boundary Value Problem for the Biharmonic Equation Occurring in Elasticity Theory

SOV/140-58-3-31/34

$$\alpha\sigma_r + \beta u = \gamma \quad \text{for } r=R\ ,\ -\infty < z < 0\ ,$$

where $u = -\frac{1+\nu}{E}\frac{\partial^2\chi}{\partial r \partial z}$, $\alpha > 0$, $\beta > 0$.

The solution is obtained by skillful combination of the methods of one of the authors [Ref 2] and of Al'perin [Ref 1] .
There are 2 Soviet references.

ASSOCIATION: Khar'kovskiy avtomobil'no-doroshnyy institut (Kharkov Highway Institute)

SUBMITTED: November 23, 1957

Card 2/2

AUTHOR: Kogan, B.I. (Khar'kov) SOV/24-58-6-20/35

TITLE: The Axi-symmetric Problem in the Theory of Elasticity for a Semi-infinite Medium Consisting of Many Layers (Osesimmetricheskaya zadacha teorii uprugosti dlya mnogosloynogo poluprostranstva)

PERIODICAL: Izvestiya Akademii Nauk SSSR Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 6, pp 111-113 (USSR)

ABSTRACT: Particular cases of the problem have been considered by Marguerre (Ref 1), Shekhter (Ref 2), Shapiro (Refs 3,4) and Burmister (Ref 5). In this note a general solution is proposed for the axi-symmetric problem for a semi-infinite medium consisting of a collection of uniform and non-uniform layers connected by conditions of continuity in the stresses and displacements. Numerical results are introduced for a two-layer system. In order to solve the problem of the stressed state of a non-uniform semi-infinite medium the modulus of elasticity and Poisson's coefficient, which are given as functions of the co-

Card 1/2 ordinate z, are replaced by step functions; this

The Axi-symmetric Problem in the Theory of Elasticity for a Semi-Infinite Medium Consisting of Many Layers

transforms the non-uniform layer into a system of many layers. In the two-layer system considered as an example, the modulus of elasticity and Poisson's coefficient are assumed to be constant and the stress $\tau(r) = 0$.

There are 2 figures and 6 references (1 German, 1 English and 4 Soviet)

SUBMITTED: January 13, 1958

Card 2/2

KOGAN, B.I.; KHRUSTALEV, A.F. (Khar'kov)

Axisymmetric problem of the elasticity theory for a hollow cylinder.
Prikl.mat. i mekh. 22 no.5:683-686 S-O '58. (MIRA 11:11)
(Elasticity)

KOGAN, B.I., kand.tekhn.nauk

Calculating stability of asphalt concrete pavements. Trudy MADI no.23:127-133 '58. (MIRA 12:1)
(Pavements, Concrete)

16(1)

AUTHORS: Khrustalev, A.F., Kogan, B.Y. SOV/140-59-4-22/26

TITLE: On the State of Stress of a Hollow Circular Cylinder

PERIODICAL: Izvestiya vysshik uchebnykh zavedeniy. Matematika, 1959, Nr 4 pp 178 - 183 (USSR)

ABSTRACT: The authors consider axial symmetric problems of elasticity theory of the infinite hollow circular cylinder which lead to the determination of the stress function $\varphi(r,z)$ from the biharmonic equation $\nabla^4 \varphi(r,z) = 0$ and from the boundary conditions

$\sigma_r = 0$ for $r = r_2$, $-\infty < z < \infty$; $r = r_1$, $0 < z < \infty$

$\tau_{rz} = 0$ for $r = r_1$, $r = r_2$, $-\infty < z < \infty$

$\alpha \sigma_r + \beta u = \gamma$ for $r = r_1$, $-\infty < z < 0$

The solution is obtained by function-theoretical auxiliary means according to the scheme of [Ref 1,2].

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On the State of Stress of a Hollow Circular Cylinder SOV/140-59-4-22/26

The authors give three special cases (special values of α and β).

There are 2 Soviet references.

ASSOCIATION: Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile Roads Institute)

SUBMITTED: May 23, 1958

Card 2/2

KOGAN, B.I. (Khar'kov); KHRUSTALEV, A.F. (Khar'kov)

Stresses caused by pressing a semi-infinite thin shell on a cylinder. Izv.AN SSSR. Otd.tekh.nauk.Mekh.i mashinostr. no.5:176-177 S-O '60. (MIRA 13:9)

(Elastic plates and shells)

88192

S/140/60/000/006/018/018
C111/C222

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AUTHORS: Khrustalev, A.F. and Kogan, B.I.

TITLE: On the Distribution of Temperature in a Massive Infinite Cylinder

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1960, No. 6, pp. 239 - 243

TEXT: Let one half of a massive infinite cylinder be in a medium of constant temperature, while the other half radiates the heat into the surrounding space according to Newton's law. The problem consists in the determination of a function $T(r,z)$ which satisfies the harmonic equation in cylindrical coordinates:

(1) $$\nabla^2 T(r, z) = 0$$

and the boundary conditions

(2) $$T = T_1 \quad \text{for} \quad r = R, \; -\infty < z < 0$$

(3) $$\frac{\partial T}{\partial r} + hT = 0 \quad \text{for} \quad r = R, \; 0 < z < +\infty,$$

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On the Distribution of Temperature in a Massive Infinite Cylinder

where h is the coefficient of heat exchange.
The author's solution is

$$(16) \qquad T(\varrho, \lambda) = -\frac{hT_1}{2\pi i} \int_{-i\infty}^{0+i\infty} \frac{RJ_0(\varrho u)\Pi(u)}{u[hRJ_0(u) - uJ_1(u)]} e^{\lambda u} du$$

where

$$(11) \qquad \Pi(u) = \prod_{n=1}^{\infty} \frac{\left(1 - \frac{u}{a_n}\right)}{\left(1 - \frac{u}{b_n}\right)} ,$$

and a_n are the positive roots of the equation

$$(12) \qquad hRJ_0(u) - uJ_1(u) = 0$$

and b_n are the positive roots of the equation

$$(13) \qquad J_0(u) = 0 ,$$

$\lambda = \frac{z}{R}$, $\varrho = \frac{r}{R}$.

Card 2/4

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S/140/60/000/006/018/018
C111/C222

On the Distribution of Temperature in a Massive Infinite Cylinder

The authors mention A.M. Danilevskiy. There is 1 figure and 1 Soviet reference.

ASSOCIATION: Khar'kovskiy avtomobil'no-dorozhnyy institut
(Khar'kov Automobile and Highway Institute)

SUBMITTED: November 25, 1958

Card 4/4

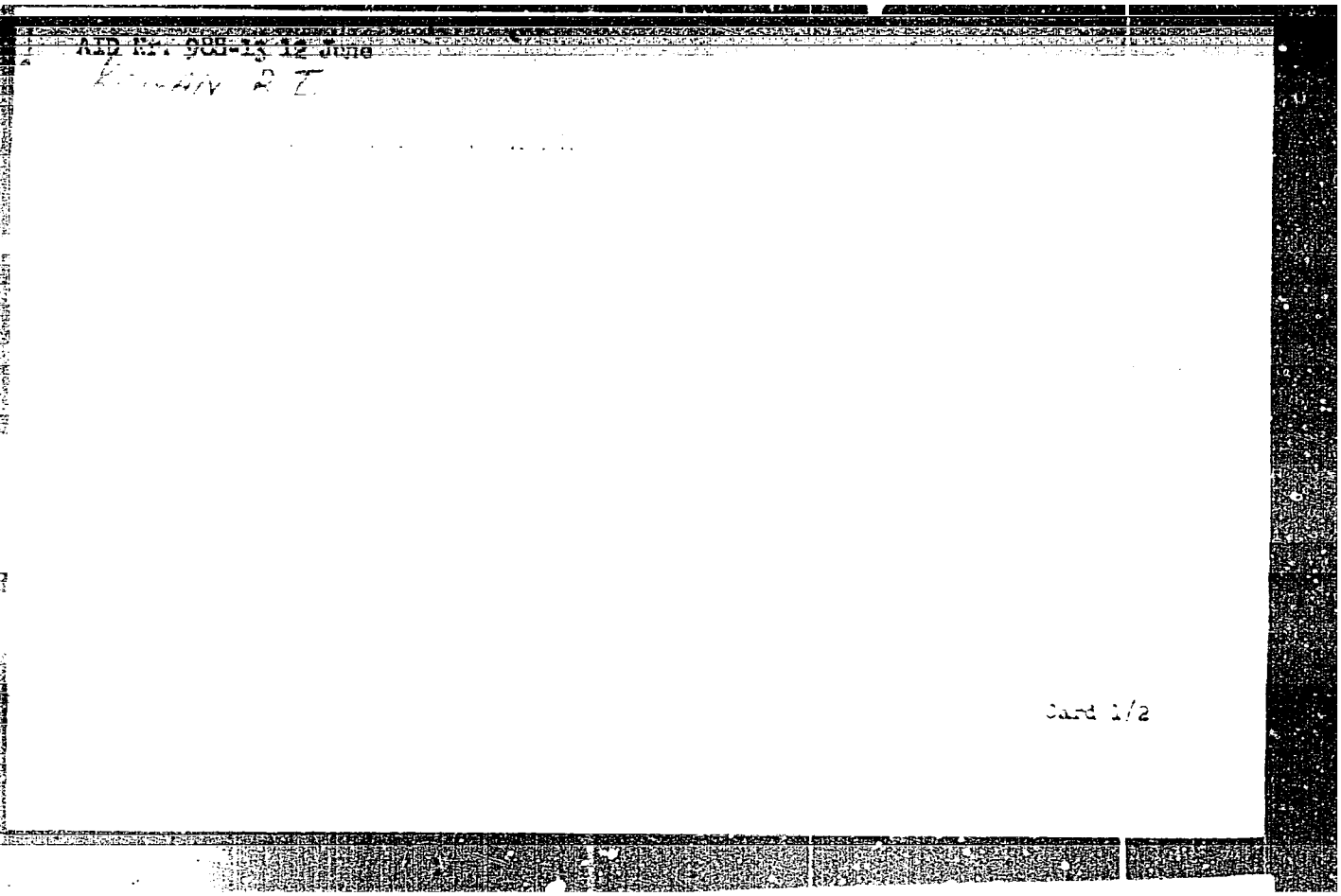
KOGAN, B. I. and KHRUSTALEV, A. F.

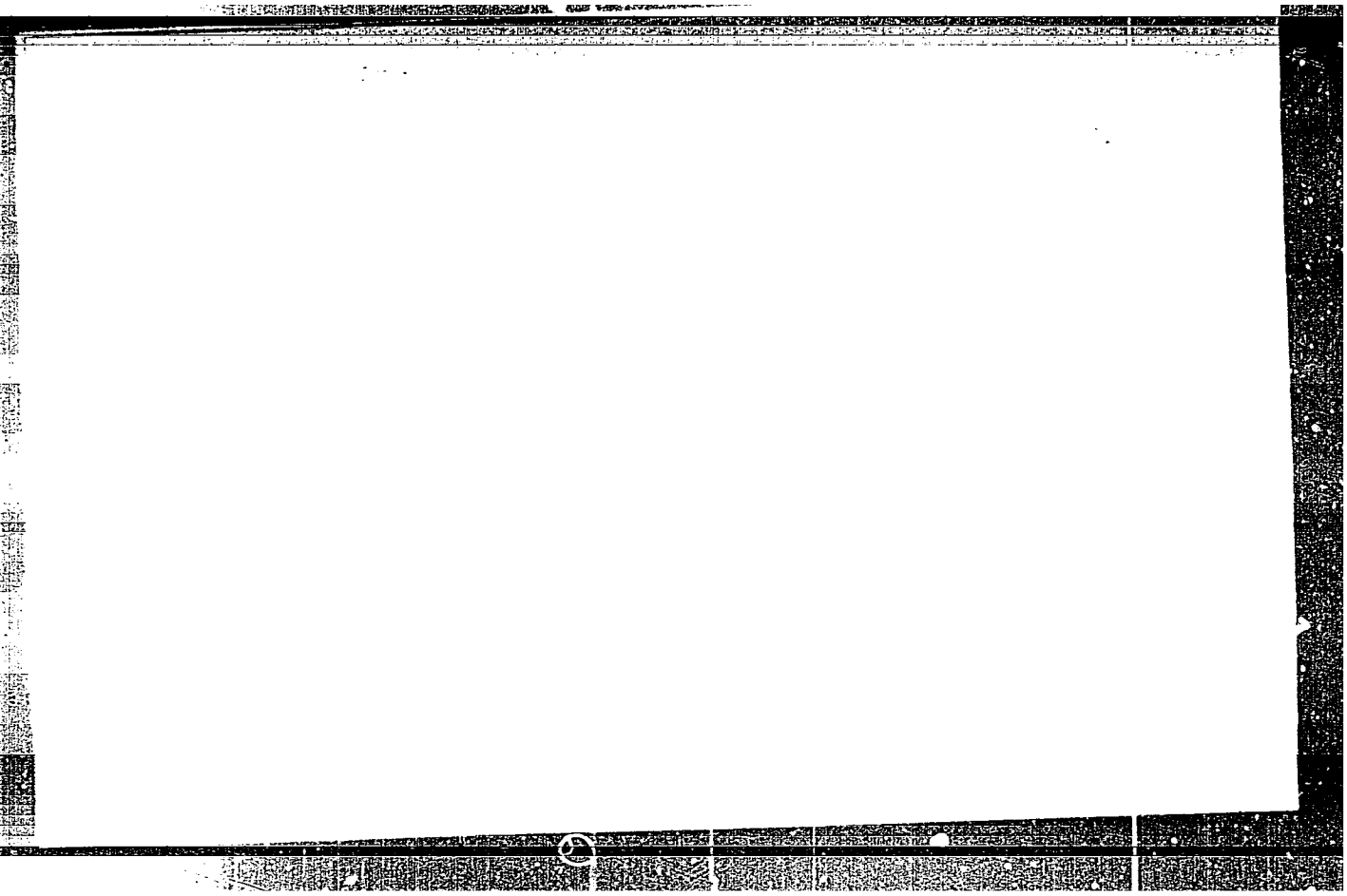
"Temperature Distribution in an Infinite Hollow Cylinder."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

SHEVCHENKO, P.V.; KOGAN, B.I.

Investigating the state of stress of car wheel disks.
Trudy KHIIT no.49:34-54 '61. (MIRA 15:12)
(Car wheels)
(Strains and stresses)





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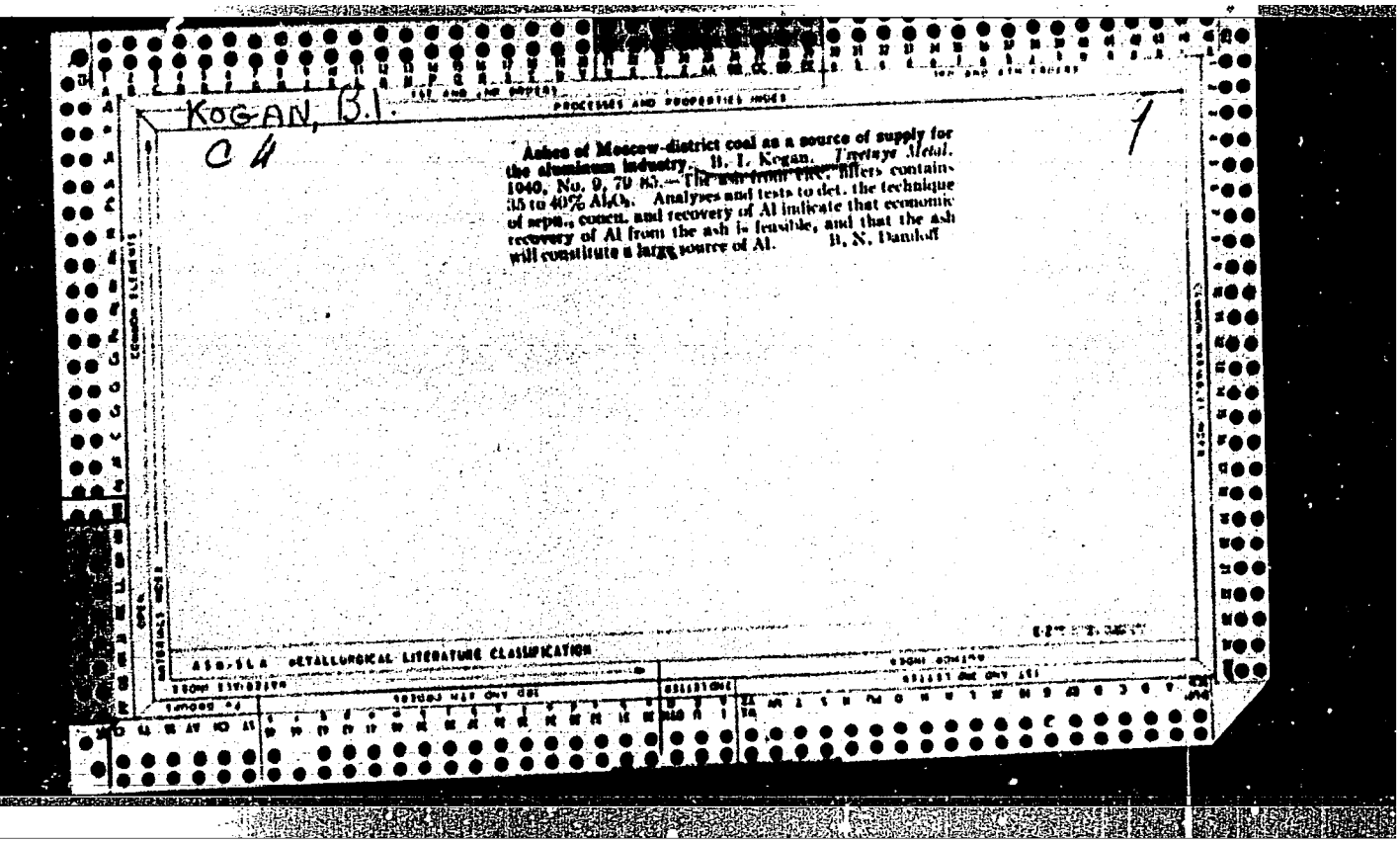

KOGAN, B.I.

C 4

1

Ashes of Moscow-district coal as a source of supply for the aluminum industry. B. I. Kogan. *Tsvetnye Metal.* 1940, No. 9, 79-85.—The ash from these fillers contains 35 to 40% Al_2O_3. Analyses and tests to det. the technique of sepn., concn. and recovery of Al indicate that economic recovery of Al from the ash is feasible, and that the ash will constitute a large source of Al. B. N. Danilov

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOGAN, B.I.

1. FERSMAN, A. YE. AND KOGAN, B. I.

2. USSR (600)

4. Geology and Geography

7. Mineral Raw Material of Foreign Countries, A. Ye. Fersman and B. I. Kogan. (Moscow-Leningrad, Press of Acad Sci USSR, 1947). Reviewed by D. I. Shcherbakov and N. N. Nekrasov, Sov. Kniga, No 8, 1948.

9. [redacted] Report U-3061, 19 Jan. 1953, Unclassified.

KOGAN, B.I.

KOGAN, B.I.

Lithium industry in capitalistic countries. TSvet.met. 28 no.6:65-72 N-D '55. (MIRA 10:11)
(Lithium)

KOGAN, B.I., kandidat ekonomicheskikh nauk.

Industry of rare elements abroad. Khim.nauka i prom. 1 no.5: 564-571 '56. (MLRA 9:12)
(Metals, Rare and minor)

KOGAN, B.I.

Prices of rare elements in capitalist countries. TSvet. met. 29 no.10:89-96 O '56. (MLRA 9:12)

(Earths, Rare)

SOV/137-58-9-20088

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 282 (USSR)

AUTHOR: Kogan, B.I.

TITLE: Industrial Applications of Rare Earths (Based on Data in Foreign Journals) [Primeneniye redkikh zemel' v promyshlennosti (po dannym in. zhurnalov)]

PERIODICAL: Byul. nauchno-tekhn. inform. M-vo geol. i okhrany nedr SSSR, 1957, Nr 5 (10), pp 24-27

ABSTRACT: The rare-earth elements (REE) are widely used in nuclear engineering. Ceramic and refractory materials using Ce, La, and other REE have been developed for nuclear reactors. Tu is employed in X-ray apparatus for medical diagnostics and for flaw detection. The REE are employed in metallurgical processes as deoxidizers, degassing agents, and desulfurizers, and also serve well as inoculants, which afford an improvement in the deformability and mechanical properties of various alloys (pig iron, steel, Mg alloys and others). Polishing powders of the REE (chiefly a specially treated Ce oxide) are superior to all known polishing materials. In addition, REE are employed to make incandescent carbons, luminescent materials,

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Industrial Applications of Rare Earths (cont.)

pyrophoric alloys, explosives, medicaments, etc. The fields of application of REE in nuclear engineering, ferrous and nonferrous metallurgy, light alloys, glasses, ceramics, refractories, illumination engineering, electrical and electronic engineering, the chemical industry, military engineering, etc., are listed.

E.K.

1. Rare earth elements--Applications

Card 2/2

KOGAN, B.I.

AUTHOR: Kogan, B.I. 136-6-25/26

TITLE: The Rare Earth Elements Thulium and Promethium Become Technically Valuable. (Redkozemel'nyye elementy tuliy i prometiy priobretayut tekhnicheskuyu tsennost')

PERIODICAL: Tsvetnyye Metally, 1957, No. 6, pp. 92 - 95 (USSR)

ABSTRACT: This is a survey of non-Slavic (mainly American) literature on thulium and promethium. Their preparation, properties and uses are considered. The uses of the former element include flow detection, and the latter is used in miniature batteries. There are 20 references, 4 of which are Slavic.

AVAILABLE: Library of Congress

Card 1/1

KOGAN, B.I.

Institute of Geochemistry and Crystalography (and/of ?) Rare Minerals, Academy

"Rare Elements - A New Field of Industry"

K'o-hsueh T'ung-pao (Scientia), June 1958

ICC

KOGAN, D. L.

PHASE I BOOK EXPLOITATION SOV/3402

18(1,3)

Soveshchaniye po primeneniyu redkozemel'nykh elementov dlya chugunshennykh i stalnykh slitkov: Sbornik materialov soveshchaniya....

Redkozemel'nye elementy v stalyakh i splavakh; trudy soveshchaniya.... (Rare Earth Elements in Steels and Alloys; Transactions of a Conference on the Use of Rare Earth Elements to Improve the Physical Properties of Structural and Special Steels and Alloys) Moscow, Metallurgizdat, 1959. 246 p. Errata slip inserted. 3,150 copies printed.

Ed.: A. A. Prozhogin; Ed. of Publishing House: A. L. Osvetchanyi; Tech. Ed.: P. G. Talent'yeva.

PURPOSE: This book is intended for engineers, technicians and scientists engaged in the metallurgy of heavy and nonferrous metals, and may be used by students of higher educational schools, who are specializing in the metallurgical science of these metals.

COVERAGE: The articles which give general characteristics of investigations and uses of rare earths as alloying components in steels and alloys. The influence of rare earth additives in improving the technical properties of structural, fire-resistant and other steels and alloys is also described. Figures, tables and references (mostly Soviet) accompany each article. No personalities are mentioned.

Kogan, D. L., Candidate of Economical Sciences, Institut mineralnogo syrya (Institute for Mineralogy, Geochemistry and Chemical Crystallography of Rare Earth Elements AS USSR). The State of Rare Earths Production and the Trend in Its Development (According to Soviet Literature) 5

Yeremichev, V. V., Engineer, Candidate of Chemical Sciences; I. N. Mikolayev, and K. P. Kurenin, Engineer. Methods of Determining Small Amounts of Rare Earths in Steels 26

Savitskiy, Ye. M., Doctor of Chemical Sciences; V. F. Terekhova, Candidate of Technical Sciences; and V. A. Tsiklis, Engineer. Investigation of the Physicochemical Interaction of Rare Earth Metals With Iron and Steel 31

Bannikova, S. Ya., Engineer. Effect of Rare Earths on the Sulfur Distribution Contents of Molten Steel and the State of Sulfur in Solid Steel 50

Kalyuzhnyy, V. A., Engineer. Dependency of the Mechanical Properties of Structural Steel 37KhGSA on Heating Agents and Methods of Extraction 77

Gulyayev, B. B., Doctor of Technical Sciences; I.A. Shegnarov, Candidate of Technical Sciences; O. M. Ragulskiy, Candidate of Technical Sciences; and Z. D. Kiryanova, Engineer. Influence of Rare Earths on the Crystallization and Mechanical Properties of Cast Steel 98

Verbol'shaya, Yo. D., Engineer; L. V. Zaslov, Engineer; and A. Yo. Shabalkov, Doctor of Technical Sciences. The Effect of Cerium Additives on the Properties of Cr-Ni-Mo Steel for Shaped Steel Casting 118

Sol'dshteyn, Kh. Ye., Candidate of Technical Sciences, and O. D. Zhikhkina, Engineer. The Effect of Cerium on the Structure and Properties of Cast and Forged Steel 130

Kopp, L. P., Candidate of Technical Sciences, and V. I. Yatsukhov, Candidate of Technical Sciences. Study of the Effect of Rare Earths on the Physicomechanical Properties of Cr-Ni-Mo Steel 155

Studnits, M. A., Candidate of Technical Sciences; Yu. E. Kondy, Engineer; and A. I. Sokolikov, Engineer. The Influence of Rare Earths on the Nature of Fracture and the Structure and Properties of Steel 183

Danilova, G. P., Candidate of Technical Sciences; V. V. Poplavko, B. Y. Maliyev, Doctor of Technical Sciences; N.V. Poplavko, Candidate of Technical Science. Additives for Welding Titanium Alloys 196

Zaffe, V. M., Candidate of Technical Sciences, and V.K. Barov, Engineer. Electrochemical Method of Producing Rich Metal-Magnesium Alloys for Modified Cast Iron 204

Kopp, L. P., Candidate of Technical Sciences; L.M. Shigidina, Engineer; and O. D. Sudakova. The Problems of Cause for the Low Plasticity of Kh23N18-Type Steel at High Temperature and Possibilities of Improving This Condition With Rare Earths 211

KOGAN, B.I.; GINZBURG, A.I., nauchnyy red.; NEKRASOVA, N.B., red.izd-va; IVANOVA, A.G., tekhn.red.

[Quality required by industry in mineral raw materials; handbook for geologists] Trebovaniia promyshlennosti k kachestvu mineral'nogo syr'ia; spravochnik dlia geologov. Izd.2., perer. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr. No.41. [Lithium] Litii. 1959. 26 p. (MIRA 12:11)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

(Lithium)

KOGAN, B.I.

Commercial niobium and tantalum raw material in foreign countries. Trudy Inst.min., geokhim.i kristalokhim.red.elem. no.2:287-292 '59. (MIRA 15:4)

(Niobium) (Tantalum)

S/081/60/000/012(II)/003/010
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 12 (II), p. 481, # 48379

AUTHOR: Kogan, B.I.

TITLE: Industrial Importance of Rare Earths

PERIODICAL: Tr. In-ta mineralogii, geokhimii i kristallokhimii redk. elementov AN SSSR, 1959, No. 2, pp. 293-331

TEXT: This is a review concerning: rare earth salts and their application in engineering; recovery of rare earth raw material abroad; information on chemico-metallurgical enterprises of rare earth production; assortment of industrial rare earth products manufactured abroad. There are 108 references.

N. Shiryayeva

Translator's note: This is the full translation of the original Russian abstract.

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KOGAN, B.I., kand. ekon. nauk; SAVITSKIY, Ye.M., doktor khim. nauk, red.; TARAKHOVSKAYA, N.K., otv. red.; SOKOLOVA, N.V., tekhn. red.

[Lithium; fields of established possible application] Litii; oblasti osvoennogo i vozmozhnogo primeneniia. Pod red. E.M.Savitskogo. Moskva, Vses. in-t nauch. i tekhn. informatsii, 1960. 110 p.
(MIRA 14:10)

(Lithium)

Kogan, B.I.

PHASE I BOOK EXPLOITATION SOV/4164

Vsesoyuznoye soveshchaniye po splavam redkikh metallov. 1st, Moscow, 1957

Redkiye metally i splavy; trudy... (Rare Metals and Alloys; Transactions of the First All-Union Conference on Rare-Metal Alloys) Moscow, Metallurgizdat, 1960. 438 p. 3,150 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut metallurgii; USSR Komissiya po redkim metallam pri nauchno-tekhnicheskom komitete.

Ed.: I.K. Shapovalov; Ed. of Publishing House: O.M. Kamayeva; Tech. Ed.: P.G. Islent'yeva.

PURPOSE: This collection of articles is intended for metallurgical engineers, physicists, and workers in the machine-building and radio-engineering industries. It may also be used by students of schools of higher education.

COVERAGE: The collection contains technical papers which were presented and discussed at the First All-Union Conference on Rare-Metal Alloys, held in the Institute of Metallurgy, Academy of Sciences USSR in November 1957. Results of investigations of rare-metal alloys, titanium, and copper-base alloys with additions of rare metals are presented and discussed along with investigations of rhenium, vanadium, niobium, and their alloys. The effect of rare-earth metals

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on properties of magnesium alloys and steels is analyzed. The uses of rhenium as a dehydrating catalyst, electroplating material, and material suitable for making plugs for automobile electrical systems are discussed. Also, the effect of the addition of certain elements on the properties of heat-resistant steel is examined and alloys with special physical properties (particularly semiconductive alloys) are discussed. No personalities are mentioned. Soviet and non-Soviet references accompany some of the articles.

TABLE OF CONTENTS:

Card 2/8

KOGAN, B.I.

Rare earths. Priroda 50 no.12:26-34 D '61. (MIRA 14:12)

1. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov (Moskva).

(Rare earth metals)

KOGAN, Boris Iosifovich; ZAOZERSKIY, I.N., zasluzhennyy deyatel' nauki i tekhniki, prof., otv. red.; VLASOV, K.A., glav. red.; POPOVA, T.S., red. izd-va; PRUSAKOVA, T.A., tekhn. red.; RYLINA, Yu.V., tekhn. red.

[Studies of rare earth from the point of view of economic geology] Ekonomicheskie ocherki po redkim zemliam. Moskva, Izd-vo Akad. nauk SSSR, 1961. 439 p. (MIRA 14:8)

1. Chlen-korrespondent Akademii nauk SSSR (for Vlasov)
(Rare earths)

GUTMAN, A.I.; PLOTNIKOV, N.I.; KOGAN, B.I.

Purification of waste waters from gold recovery plants using various flowsheets. TSvet.met. 34 no.10:28-33 O '61. (MIRA 14:10)

1. TsNIIolovo.
(Gold—Metallurgy) (Sewage—Purification)

KOGAN, B.I.; KAL'ZHANOVA, Ye.G.; SAL'TINA, L.V.; SOLODOV, N.A.; DMITRIYEVA, O.P.; Prinimali uchastiye: UKHANOVA, N.I.; PERVUKHINA, A.Ye.; KAZANTSEVA, V.G.; ULANOVSKAYA, V.D.; VLASOV, K.A., glav. red.; LIZUNOV, N.V., otv. red.; PYATENKO, Yu.A., otv. red.; SALTYKOVA, V.S., otv. red.; SLEPNEV, Yu.S., otv. red.; FABRIKOVA, Ye.A., otv. red. PODOSEK, V.A., red. izd-va; GOLUB', S.I., tekhn. red.

[Rare alkali metals (lithium, rubidium, and cesium); a bibliography on their geochemistry, mineralogy, crystal chemistry, geology, the analytic methods of their determination, and their economics]Redkie shchelochnye metally (litii, rubidii i tsezii); bibliografiia po geokhimii, mineralogii, kristallokhimii, geologii, analiticheskim metodam opredeleniia i ekonomike. Sost. B.I.Kogan i dr. Moskva, Izd-vo Akad. nauk SSSR, 1962. 327 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov. 2. Chlen-korrespondent Akademii nauk SSSR (for Vlasov).

(Bibliography--Alkali metals)

KOGAN, B.I. (Moskva); KOLOTUKHINA, S.Ye. (Moskva)

Rare elements in the sands of the Sahara. Priroda 51 no.4:70 Ap '62. (MIRA 15:4)

(Sahara--Mines and mineral resources)

KOGAN, B.I.; NAZVANOVA, V.A.; KATS, F.A., red.; POPLYAKOVSKAYA, S.M., red.; LOGINOVA, Ye.I., tekhn. red.

[Possible areas for the use of scandium] Vozmozhnye oblasti primeneniia skandiia. Moskva, 1963. 47 p. (MIRA 16:11)

1. Moscow. TSentral'nyy institut informatsii tsvetnoy metallurgii.

(Scandium)

KOGAN, Boris Iosifovich; NAZVANOVA, Valentina Aleksandrovna; VLASOV, K.A., glav. red.; SHCHERBINA, V.V., doktor geol.-miner. nauk, otv. red.; PONOVA, T.S., red.izd-va; RYLINA, Yu.V., tekhn. red.

[Scandium; an economic analysis] Skandii; ekonomicheskii analiz. Moskva, Izd-vo AN SSSR, 1963. 303 p. (MIRA 16:8)

1. Chlen-korrespondent AN SSSR (for Vlasov).
(Scandium)

KOGAN, B.I.

Areas in which scadium is used. Biul. nauch.-tekh. inform. VIMS no.2:88-91 '63. (MIRA 18:2)

1. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov.

KOGAN, B.I.; NAZVANOVA, V.A.

Side recovery of scandium from uranium ores. Atom. energ. 14 no.6:600-602 Je '63. (MIRA 16:7)
(Uranium ores) (Scandium)

AM4006611 BOOK EXPLOITATION S/

Kogan, Boris Iosifovich; Nazvanova, Valentina Aleksandrovna

Scandium; an economic analysis (Skandiy; ekonomicheskiy analiz) Moscow, Izd-vo AN SSSR, 1963. 303 p. illus., biblio. Errata slip inserted. 1000 copies printed. At head of title: Akademiya nauk SSSR. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov.

TOPIC TAGS: scandium, scandium compounds, scandium organic, rare earth metal, scandium ores, scandium industry, scandium metallurgy, isotopes,

PURPOSE AND COVERAGE: This book is intended for geologists, geochemists, mineralogists, chemists, engineers, metallurgists, economists, and specialists in other fields of science and technology concerned with scandium. The text is a review of the economic importance of scandium based on Western and Soviet literature published during the period 1906-1962 (1062 references taken from 2300 bibliographic entries). Entries which cover scandium in space, in nuclear physics, analytical methods, supplementary literature on

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the geology, mineralogy, geochemistry, and chemistry of scandium, etc., will be published in a separate bibliography. The book covers the chemistry of scandium and scandium compounds and scandium technology with particular accent on its use in such modern fields as aviation, rocketry, and electronics. All references to the use of scandium in the field of aerospace are based primarily on U.S. military and industrial sources. Scandium research trends are given in Table 20, pp. 94-95. Better utilization of scandium in modern technology is expected.

TABLE OF CONTENTS [Abridged]:

Card 2/3

KOGAN, Bronislava L'vovna; SOMINSKIY, Vladimir Samuilovich; TUROVSKIY, P.B., red.; SHITS, V.P., tekhn. red.

[Means of increasing labor productivity in the woodpulp and paper industries] Puti povysheniia proizvoditel'nosti truda v tsellulozno-bumazhnoi promyshlennosti. Moskva, Goslesbumizdat, 1957. 54 p. (Woodpulp industry) (Paper industry) (MIRA 11:9)

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KNOPOV, A.L.; KOGAN, B.L.; SINITSYN, M.P.; SOMINSKIY, V.S.; KHVEDCHENYA, L.I.

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SOMINSKIY, Vladimir Samoylovich, dotsent, kand.tekhn.nauk; GUREVICH, Semen Borisovich, insh.; KOGAN, Bronislava L'vovna, dotsent, kand.ekon.nauk; UCHASTKINA, Zoya Vasil'yevna, dotsent, kand. tekhn.nauk. Prinimal uchastiye: IVCHER, M.I., starshiy prepodavatel'. FEDORENKO, N.P., prof., doktor ekon.nauk, retsenzent; SARMATSKAYA, G.I., red.izd-va; BRAZHISHKO, L.V., tekhn.red.; PROKOF'YEVA, L.M., tekhn.red.

[Production organization and planning at pulp and paper mills] Organizatsiia i planirovanie proizvodstva na tselliulozno-bumazhnykh predpriiatiiakh. Moskva, Goslesbumizdat, 1958. 257 p. (MIRA 12:6)
(Woodpulp industry) (Paper industry)

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KOGAN, B.M. (Moskva, ul. Kachalova, d. 10, kv. 5); KOMAROV, I.A.

Electrocardiographic changes in pulmonary infarcts developing after mitral commissurotomy. Grudn. khir. 4 no.5:52-53 S-O'62 (MIRA 17:3)

1. Iz laboratorii funktsional'noy diagnostiki (zav. - kand. med. nauk G.G. Gel'shteyn) i otdeleniya priobretennykh zabolevaniy serdtsa (zav. - prof. S.A. Kolesnikov) Instituta grudnoy khirurgii AMN SSSR (dir. - prof. S.A. Kolesnikov, nauchnyy rukovoditel' - akademik A.N. Bakulev).

KOGAN, B. M.; KASSIRSKIY, G. I.

Diagnosis of recurrent mitral stenosis. Terap. 34 no.1:19-24 '62. (MIRA 15:7)

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(MITRAL VALVE--DISEASES)

ZINGERMAN, L.S.; KOGAN, B.M.; KURILOVICH, Ya.B.

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1. Iz Instituta serdechno-sosudistoy khirurgii (dir. - prof. S.A. Kolesnikov, nauchnyy rukovoditel' - akademik A.N.Bakulev) AMN SSSR.

GEL'SHTEYN, G.G.; KOGAN, B.M. (Moskva)

Changes in the electrocardiogram in patients with mitral stenosis during the late postoperative period. Klin.med. 37 no.8:61-67 Ag '59. (MIRA 12:11)

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(COMMISSUROTOMY, physiology)
(ELECTROCARDIOGRAPHY)

KOGAN, B.M. (Moskva, ul. Kachalova,d.10,kv.5)

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1. Iz laboratorii elektrokardiografii i fonokardiografii Instituta grudnoy khirurgii AMN SSSR (dir. - prof. A.A. Busalov, nauchnyy rukovoditel' - akademik A.N. Bakulev) i Pervoy gorodskoy klinicheskoy bol'nitsy imeni Pirogova (glavnyy vrach zasluzhennyy vrach RSFSR L.D. Chernyshev).
(ELECTROCARDIOGRAPHY)
(MITRAL VALVE—SURGERY)

KOGAN, B.M.; MURATOVA, Kh.N.

Changes in the electrocardiogram in coronary insufficiency before and after ligation of the internal thoracic arteries. Grud. khir. 3 no.1:67-70 Ja-F '61. (MIRA 16:5)

1. Iz laboratorii funktsional'noy diagnostiki (zav. - kand. med.nauk G.G.Gel'shteyn) i otdeleniya priobretennykh zabolevaniy serdtsa (zav. - prof. S.A.Kolesnikov) Instituta grudnoy khirurgii (dir. - prof. S.A.Kolesnikov, nauchnyy rukovoditel' - akademik A.N.Bakulev) AMN SSSR. Adres avtorov: Moskva, Leninskiy prospekt, 8, Institut grudnoy khirurgii AMN SSSR.
(ELECTROCARDIOGRAPHY) (CORONARY HEART DISEASE)
(THORACIC ARTERY--LIGATURE)

BEREZOV, Yu.Ye; KOGAN, B.M.; POTEMKINA, Ye.V.; RAKHIMOV, S.R.

Differential diagnosis of chronic coronary insufficiency and esophagitis. Sov. med. 27 no.12:51-55 D'63 (MIRA 17:4)

1. Iz otdeleniya khirurgii sosudov (zav. - prof. Yu.Ye.Berezov) i laboratorii funktsional'noy diagnostiki (zav. - kand. med. nauk G.G.Gel'shteyn) Instituta serdechno-sosudistoy khirurgii (dir. - prof. S.A. Kolesnikov, nauchnyy rukovoditel' - akademik A.N. Bakulev) AMN SSSR.

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ZINGERMAN, L.S.; KOGAN, B.M.

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Kardiologiia no.1:69-72 '64. (MIRA 17:10)

1. Laboratoriya funktsional'noy diagnostiki (zav.- kand. med. nauk G.G. Gel'shteyn) i rentgenovskoye otdeleniye (zav.- dotsent M.A. Ivanitskaya) Instituta serdechno-sosudistoy khirurgii (dir.- prof. S.A. Kolesnikov, nauchnyy rukovoditel'- akademik M.N. Bakulev) AMN SSSR, Moskva.

KOGAN, B.M.; MUSTAFA KHMED IL'SID

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LORIYE, K.M.; KOGAN, B.M.

Comparative evaluation of the results of conservative and surgical treatment of myocardial infarction. Grud. khir. 6 no.5:39-44 S-O '64. (MIRA 18:4)

1. Institut serdechno-sosudistoy khirurgii (dir. - prof. S.A. Kolesnikov; nauchnyy rukovoditel' - akademik A.N.Bakulev) AMN SSSR, Moskva.

KOGAN, B.M.; MEYTINA, R.A.; POKROVSKIY, A.V.; CHELIKIDI, R.F.

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KOGAN, B.M., kand. med. nauk, polkovnik meditsinskoy sluzhby

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PLATONOV, V.M.; [illegible], B.G.; MONKO, Ya.D.; KOGAN, B.O.

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1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov.
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(Calculating machines)

NIKULINA, V.A.; GEZENTSVEY, Z.A.; KOGAN, B.S.

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1. Khirurgicheskoye otdeleniye (zav. - prof.O.V.Nikolayev) i rentgenologicheskoye otdeleniye (zav. - prof. M.I.Santotskiy) Vsesoyuznogo instituta eksperimental'noy endokrinologii (direktor - prof. Ye.A.Vasyukova), Moskva.

KOGAN, B.S.

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1. Nervnoye organicheskoye otdeleniye (nauchnyy rukovoditel' - Kh.L.Bal'man) Leningradskogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta imeni V.M.Bekhtereva (direktor - B.A.Lebedev).

KOGAN, B.S.

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(HYPNOTISM) (BRAIN--DISEASES)

KOGAN, B.S.

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KOGAN, B.S.; KRASNOV, B.I.; RAYEVSKAYA, M.A.; CHIRKOVA, L.P.; YARTSEVA, L.A.; SHUKHARDIN, S.V., red.; UL'YANOVA, O.G., tekhn. red.

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TRAPEZNIKOV, V.A. and KOGAN, B.Ya.

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AYZERMAN, M.A., doktor tekhnicheskikh nauk, redaktor; VORONOV, A.A., kandidat tekhnicheskikh nauk, redaktor; KOGAN, B.Ya., kandidat tekhnicheskikh nauk, redaktor; KOTEL'NIKOV, V.A., kandidat tekhnicheskikh nauk, redaktor; LETOV, A.M., doktor fiziko-meditsinskikh nauk, redaktor; LOSSIYEVSKIY, V.L., doktor tekhnicheskikh nauk, redaktor; MEYEROV, M.V., doktor tekhnicheskikh nauk, redaktor; NAUMOV, B.N. redaktor; PETROV, B.N., redaktor; SOLODNIKOV, V.U, doktor tekhnicheskikh nauk, redaktor; TRAPEZNIKOV, V.A., redaktor; KHRAMOY, A.V., kandidat tekhnicheskikh nauk, redaktor; TSYPKIN, Ya.Z., doktor tekhnicheskikh nauk, redaktor; VORONOV, A.A., redaktor; PEVZNER, R.S.,tekhnicheskiy redaktor.

[Proceedings of the Second All-Union Conference on the theory of automatic control] Trudy vtorogo Vsesoyuznogo soveshchaniia po teorii avtomaticheskogo regulirovaniia.

(Continued on next card)

AYZERMAN, M.A. doktor tekhnicheskikh nauk, redaktor (Cont'd) Card 2.

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1. Chlen-korrespondent AN SSSR(for Petrov, Trapeznikov) 2. Vsesoyuznoye soveshchaniye po teorii avtomaticheskogo regulirovaniya 2d, Moscow, 1953.
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Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 15 (USSR) SOV/124-57-7-7561

AUTHORS: Trapeznikov, V. A., Kogan, B. Ya.

TITLE: Modern Methods of Experimental Investigation of Automatic-control Systems (Sovremennyye metody eksperimental'nogo issledovaniya sistem avtomaticheskogo regulirovaniya)

PERIODICAL: Tr. 2-go Vses. soveshchaniya po teorii avtomat. regulirovaniya. Vol 3. Moscow-Leningrad, 1955, pp 7-36

ABSTRACT: An account is given of the essential features of a method for full-scale testing and for physical and mathematical analog simulation of automatic-control systems. Included are circuits and descriptions of the various electronic and electromechanical elements of the latest mathematical analogs (i.e., computing elements, function-transforming elements, multiplier and divider elements, etc.) The authors describe briefly the principles of construction of mathematical analogs and list those that had been brought out by Soviet industry as of 1955; they mention also those built at the Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automation and Telemechanics, Academy of Sciences, USSR). Included are general-view photographs of analog

Modern Methods of Experimental Investigation of Automatic-control Systems

computers of types IPT-4, IPT-5, MPT-9, EMU-2, EMU-3, and EMU-4. The need for broader development of electronic-analog mathematical-simulation methods is emphasized.

Ye. P. Popov

KOGAN, B.YA.

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957 112-2-3988
Nr 2, p.208 (USSR)

AUTHOR: Kogan, B.Ya.

TITLE: The Electronic Analog Computers of the Institute of Automation and Remote Control of the Academy of Sciences of the USSR (Elektronnyye modeliruyushchiye ustanovki Instituta avtomatiki i telemekhaniki AN SSSR)

PERIODICAL: Tr. 2-go Vses. soveshchaniya po teorii avtomat. regulirovaniya. Moscow-Leningrad, 1955, Nr 3, pp.47-69, addresses 70-71

ABSTRACT: An account is given of studies made since 1947 by the Institute to create computers for doing research on automatic control systems (ACS). Problems can be solved on the computers (research on transients in linear ACS with account taken of delays, of the existance of parameters varying in time, and of random disturbances,

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as well as nonlinear ACS) to an accuracy of 5 to 10 per cent. The first computer (1949) was able to solve linear differential equations of up to the 10th order, with constant and variable coefficients. Subsequently the EMY-2 computer (1950), designed to solve linear differential equations of up to the 10th order, with constant and variable coefficients and the EMY-3 computer (1951), designed to solve linear differential equations of up to the sixth order, were built. Resolver amplifier circuits of the EMY-3 computer, and circuits of other units of this computer, are discussed. The EMY-4 computer (1952-1953) is designed to solve linear and nonlinear equations of up to the seventh order, with constant and variable coefficients. It contains 14 d.c. resolver driver amplifiers with automatic zero stabilization, nonlinear computing elements, standard nonlinearity units, etc. Nonlinearities of a type of limiter, zones of insensitivity of free play, of friction, and of relay characteristics, universal function generators and multiplier-divider units are discussed. A device without a photo-

The Electronic Analog Computers of the Institute of Automation (Cont.)

multiplier, developed in the Institute is described. Its operating principle is based on the passage of an alternating current through the screen of a cathode-ray tube. The multiplying units of the computer are built around diode circuits. When performing the operation of division, either the multiplying unit in the feedback circuit, or the electro-mechanical tracking system in combination with the resolver amplifier, is used. In conclusion, the problems in connection with improved computer equipment and better computer-component properties are indicated. Those who took part in the discussion touched on the problems related to the industrial production of computers, lowering their production cost, and the advisability of developing not only all-purpose, but specialized computers as well (for example, for research on ACS).

The Electronic Analog Computers of the Institute of Automation (Cont.)

It is pointed out that it will be necessary to produce nonlinear computers. The basic parameters of two nonlinear computers are given: the MN-2, a bench model, contains approximately 500 tubes and is suitable for making studies of systems of up to the sixth order; the MPT-11, (a unit-type construction computer), is designed for system equations of up to the 12th order, consists of individual, small size units and has, in all, 500 tubes not counting power supply sources.

V.A.B.

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Kogan, B. Ya.

USSR/Electricity - Regulation FD-1742

Card 1/2 : Pub. 10-1/12

Author : Kogan, B. Ya. (Moscow)

Title : Modeling of automatic regulation systems in the presence of typical nonlinear characteristics

Periodical : Avtom. i telem., Vol. 16, 113-128, Mar-Apr 1955

Abstract : The author considers the modeling of the circuits in automatic regulation systems possessing typical nonlinear characteristics (limitation of the coordinates in modulus, zone of insensitivity, free play in transmissions, relay characteristics). He shows that the enumerated characteristics must be reproduced by union of resolving amplifier with diode limiter. Procedures are presented for modeling the executor mechanisms taking into account dry friction and free play in transmissions, namely on the basis of use of diode switches and diode limiters in conjunction with resolving amplifiers. Ten references: A. Ya. Lerner, "Improvement of the dynamic properties of automatic compensators by means of nonlinear feedback," ibid., 13, No 2 and 4, 1952. A. A. Feldbaum, "Optimum processes in automatic regulation systems," ibid., 14, No 6, 1953; "Dissertation for Doctor of Technical Sciences," 1948; "Electron model of free play, priority 16 Oct 1951," Zayavka [Claim] No A-918. T. N. "Modeling of electromechanical servo-systems," Trudy nauchno-tekhnicheskoy sessii po elektroprivody [Works of the scientific-technical session on electric drive], State Power Press, 1951.

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Card 2/2

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Institution : -

Submitted : September 22, 1954

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Translation No. 596, 8 Oct 56

KOGAN, B. Y. and TRAPEZNIKOV, V. A.

"Electronic Models and Their Uses in the Research and Design of Automatic Regulating Systems," a paper read at the Convention on Control Technique, Heidelberg, 24-29 Sep 56.

Inst. Automatics and Telemechanics, Moscow

KOGAN, B. Ya., (Cand. Tech. Sci.); TRAPEZNIKOV, V. A. (Corr. Mem.)

"Electronic Models, Prospects of their Development and Utilization in Automatics,"

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Avtomatika i telemekhanika, No. 2, p. 182-192, 1957.

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KOGAN, B. YA.

"Electronic Modeling Installation Type EMU-5," by V. A. Trapeznikov, B. Ya. Kogan, V. V. Gurov, and A. A. Masolv, Pribory i Stendy, Institut Tekhniko-Ekonomicheskoy Informatsii, Akademiya Nauk SSSR, Theme 10, No P-56-422, 1956

This 120-page book describes the construction, performance, and capabilities of the EMU-5 analog computer. It has several block and circuit diagrams of the computer.

It was at the Institute of Automatics and Telemechanics, Academy of Sciences USSR, that the new EMU-5 electronic analog computer was developed under the direction of V. A. Trapeznikov and B. Ya. Kogan, in which the shortcomings of the former models (EMU-1, 2, 3, and 4) have been eliminated to a greater degree. The following persons were engaged in developing various components of the computer: V. V. Gurov and V. M. Yevseyev -- the linear unit of the computer; A. D. Talantsev, A. A. Maslov, and F. Ye. Taranin -- the nonlinear attachment, multiplying-dividing device, and functional converter; and L. M. Barilenko and A. Ye. Kyaksht -- the power unit. Structural design was executed by Ye. D. Afonina, L. M. Barilenko, Ye. A. Cheglokov, P. A. Anikeyev, and P. V. Tikhonov.

The computer is designed to solve linear and nonlinear differential equations through the sixth order, with constant and variable coefficients. The machine has provisions for hook-up with auxiliary units and other analog computers for the solution of more complex problems having equations of a still higher order.

Sum. 1360

KOGAN, B.Ya.

"Concerning the Theory of Nonlinear Functional Elements Employing Straight Line Approximation," by B. Ya. Kogan, Avtomatika i Telemekhanika, No 12, Dec 56, pp 1081-1091

Fundamental relationships are derived for a functional amplifier with the nonlinear conductivity approximated in steps. Some methods for the synthesis of function generators with diode elements are considered from the standpoint of minimization of the current steepness characteristics.

These methods provide a reduction of the error of a function converter and permit the class of the generated functions to be extended. A method was presented to determine current characteristics of diode circuits with respect to the steepness characteristics.

SUM. 1287

KOGAN, B. Ya.

"The Methodics of the Setting Up and Solving of Problems with the Help of Electric Modelling Devices (Simulators)," Avtomat. i Telemekh., 17, pp. 36-52, 1956

Translation D 419421, page 93

KOGAN, B. YA.

TOPCHIYEV, A.V., akademik, glavnyy redaktor; PETROV, B.N., otvetstvennyy redaktor; AYZERMAN, M.A., redaktor; BERNSHTEYN, S.I., redaktor; VASIL'YEV, R.V., redaktor; IVANOV, V.I., redaktor; KARAGODIN, V.M., redaktor; KOGAN, B.Ya., redaktor; LETOV, A.M., redaktor; PORTNOV-SOKOLOV, Yu.P., redaktor; SOLODOVNIKOV, V.V., redaktor; ULANOV, G.M., redaktor; TSUPKIN, Ya.Z., redaktor; KRUTOVA, I.N., redaktor; ASTAF'YEVA, G.A., tekhnicheskiy redaktor

[A session of the Academy of Sciences of the U.S.S.R. on scientific problems in automatization of production, October 15-20, 1956; principal problems of automatic control] Sessiia Akademii nauk SSSR po nauchnym problemam avtomatizatsii proizvodstva, 15-20 oktiabria 1956 g.; osnovnye problemy avtomaticheskogo regulirovaniia i upravleniia. Moskva, 1957. 334 p. (MIRA 10:5)

1. Adakemiya nauk SSSR. 2. Chlen-korrespondent AN SSSR. (for Petrov) (Automatic control)

KOGAN, B. YA.

KOGAN, B.Ya.

Investigation of nonlinear automatic control systems by the methods of mathematical modeling. Itogi nauki: Tekh. nauki no.1:173-229 '57. (MLRA 10:8)
(Automatic control) (Mathematical models)

KOGAN, B.YA.

103-9-6/9

AUTHOR: Kogan, B.Ya. (Moscow)

TITLE: On the Evaluation of Integrating Electron-Devices (Ob otsenke elektronnykh integriruyushchikh ustroystv)

PERICDICAL: Avtomatika i Telemekhanika, 1957, Vol. 18, Nr 9, pp. 841-846(USSR)

ABSTRACT: An evaluation and a comparison of the quantities ω_{min} (minimum permitted frequency of the sinusoidal input signal) and t_{max} (maximum permitted time for the integration of the step signal) for the three basic types, i.e. with a passive circuit at the amplifier input, with a parametric compensation of the error, and with a negative feedback -, as well as the explanation of the influence exercised by individual primary faults and the finity of the dynamic domain upon the quantities ω_{min} and t_{max} are given. It is shown that the application of passive integrating circuits with amplifier is purposeful from an input-signal-frequency of 2o c and more. With a necessity of having to integrate signals of very low frequency, it is necessary to go over to operators. The factor determining the quantity ω_{min} for all three types is the phase error. An exception is formed by those devices which are fitted with stabilized operators, in which the determining factor will be the finity of the dynamic domain Kp! The maximum permitted time of integration for a stepped input signal is, in the case of all three types (with the exception of that with stabilized operators) determined by the errors of method. The operators have the longest integration time.

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KOGAN, B. YA.

AUTHORS Vil'dt, Ye.O., Landsberg, R.S., Kogan, B.Ya. 103-9-9/9

TITLE Bibliography. A List of Soviet-, and Foreign Literature Dealing with Problems of Mathematical Computation (Modelling) for the Year 1955. (Bibliografiya. Spisok otechestvennoy i inostrannoy literatury po voprosam matematicheskogo modelirovaniya za 1955 g.-Russian)

PERIODICAL Avtomatika i Telemekhanika, 1957, Vol 18, Nr 9, pp 859-872 (U.S.S.R.)

ABSTRACT The list contains: 1) Books, 2) Publications by congresses and conferences, 3) General theoretical problems: a) General problems, b) Methods of solving problems by means of modelling devices, c) Precision of operation of modelling devices and their elements, 4) Modelling electron devices consisting of individual computation elements, 5) Computation elements of modelling electron devices: a) Direct current electron amplifiers, b) Computation amplifiers without tubes, c) Multiplication-and devision-devices, d) Function-transformers, e) Other computing elements, 6) Electromechanical modelling devices (electromechanical continuous computers, 7) Special continuous computers: a) Devices for the solution of systems of algebraic equations, extraction of roots, b) Correlators, c) Trenajeurs (simulators), 8) Devices for the transition of a cipher code to physical quantities and vice versa, 9) Comparison of cipher machines and analogies, 10) Auxiliary devices, 11) Application of modelling devices: a) For the solution of problems connected with automatic control, b) Application of modelling devices and their elements in aeronautics, c) Application of modelling devices and their elements for the so-

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Bibliography.A List of Soviet-, and Foreign Literature 103-9-9/9
Dealing with Problems of Mathematical Computation(Modelling)for
the Year 1955.

lution of various problems.

AVAILABLE Library of Congress.
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KOGAN, B. Ya.

16(0); 20(2) PHASE I BOOK EXPLOITATION SOV/3365

Akademiya nauk Azerbaydzhanskoy SSR

Trudy dokladov Soveshchaniya po vychislitel'noy matematike i primeneniyu sredstv vychislitel'noy tekhniki (Outlines of Reports of the Conference on Computational Mathematics and the Use of Computer Techniques) Baku, 1958. 63 p. 430 copies printed.

Additional Sponsoring Agencies: Akademiya nauk SSSR. Vychislitel'nyy tsentr, and Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

No contributors mentioned.

PURPOSE: This book is intended for pure and applied mathematicians, scientists, engineers and scientific workers, whose work involves computation and the use of digital and analog electronic computers.

COVERAGE: This book contains summaries of reports made at the Conference on Computational Mathematics and the Application of Computer Techniques. The book is divided into two main parts. The first part is devoted to computational mathematics and contains 19 summaries of reports. The second section is devoted to computing techniques and contains 20 summaries of reports. No personalities are mentioned. No references are given.

SECTION ON COMPUTING TECHNIQUES

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SOV/30-58-7-12/49

AUTHORS: Kogan, B. Ya., Maslov, A. A., Polonnikov, D. Ye.

TITLE: Electronic Modelling Apparatus of the Type EMU -8A (Elektronnaya apparatura modelirovaniya tipa EMU -8A)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 7, pp. 69 - 74 (USSR)

ABSTRACT: Such devices are increasingly used in connection with the solution of various scientific and technical problems. Their use in the form of elements of complicated automatic systems is also projected. The apparatus EMU-8A demonstrated at the International Exhibition in Brussels is the most recent modification of the type EMU-8A and is destined for the investigation of both linear and non-linear systems. These two apparatus were worked out in the Institute of Automation and Telemechanics (Institut avtomatiki i telemekhaniki) under the supervision of V.A.Trapeznikov and B.Ya.Kogan. Besides, the authors of this article, V.V.Gurov and F.Ye.Tranin took part in this work. This apparatus is designed according to the block-principle (see Fig 1) in which case each block guarantees - according

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to its limitations - the solution of both linear and non-linear differential equations up to second order inclusively. Complicated problems may be solved by connecting some fundamental blocks provided with the necessary units. The power consumption of a unit amounts to 140 W, its full weight is 36,8 kg. Its dimensions are: 320 mm high, 450 mm wide and 460 mm deep. It operates with an error of from 0,5 to 1%. The basic scheme of the solving amplifier which differs from that worked out by V.M.Yevseyev, is given in figure 2. Figure 3 shows the basic scheme of the multiplication device. A special control desk was developed according to the scheme given in figure 4 for its adjustment. The diode circuits of the transformer are given in figure 5. As no stabilized supply voltage is required and because of the block structure and because of improved technical characteristics this apparatus can be used also as an element in complicated automatic systems. There are 5 figures and 2 references, 1 of which is Soviet.

KOGAN, B.Ya.; MASLOV, A.A.; POLOMNIKOV, D.Ye.

Electronic simulating apparatus of the EMU-SA type. Vest. AN SSSR 28 no. 7:69-74 Jl '58. (MIRA 11:7)
(Electromechanical analogies)

SHILEYKO, A.V. [translator]; KOGAN, B.Ya., red.; SOLOMENTSEV, Ye.D., red.; LAGUTINA, I.M., tekhn.red.

[Digital differential analyzers] Tsifrovye differentsial'nye analizatory. Moskva, Izd-vo inostr.lit-ry, 1959. 242 p. Translated from the English by A.V.Shileiko. (MIRA 12:8)
(Electronic calculating machines)

28(1,2) PHASE I BOOK EXPLOITATION SOV/2201

Kogan, Boris Yakovlevich

Elektronnyye modeliruyushchiye ustroystva i ikh primeneniye dlya issledovaniya sistem avtomaticheskogo regulirovaniya (Use of Electronic Analog Computers in the Analysis of Automatic Control Systems) Moscow, Fizmatgiz, 1959. 492 p. 10,000 copies printed.

Ed.: O. K. Sobolev; Tech. Ed.: N. Ya. Murashova.

PURPOSE: This book is intended for persons interested in electronic analog computers who are familiar with the theory and practice of automatic control and the basic principles of electronics.

COVERAGE: The contents of this book are confined to a detailed study of direct current electronic analog computers and their basic computing elements and to problems of applying analog computers to dynamic automatic control systems. The book is based on the assumption that the operational amplifier has idealized frequency characteristics, i.e., its transfer function in the open-loop state is a constant number equal to the amplification coefficient.

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